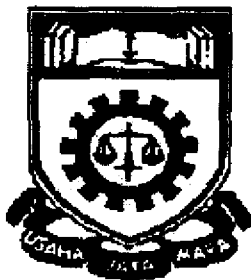


**THREE-TANK WATER LEVEL MONITORING SYSTEM
(SOFTWARE DEVELOPMENT)**

Thesis presented in partial fulfillment for the award of
Bachelor of Electrical Engineering (Honours)
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ACKNOWLEDGEMENT

I would like to thank my supervisor, Prof. Madya Dr. Yusof B. Md Salleh for his support and cooperation from the very beginning until this project is completed.

I would also like to express my deepest gratitude to En. Zamshol Kamal Harun for sharing his knowledge and guiding me in the programming stages of this project.

I am also indebted to En. Kamal Zuhairi for allowing me to use his mouse program which greatly simplified the Graphical User Interface design process.

TABLE OF CONTENTS

| CHAPTER | DESCRIPTION | PAGE |
|---------|--|------|
| 1 | INTRODUCTION | |
| 1.1 | Introduction | 1 |
| 1.2 | Scope of Thesis | 2 |
| 1.3 | Review | 3 |
| 1.3.1 | Basic Process Control Systems | 3 |
| 1.3.2 | Process Control Systems | 3 |
| 1.3.3 | Basic Software Concepts | 4 |
| 1.3.3.1 | Software Programming Techniques | 4 |
| 1.3.3.2 | Designing Languages for Real-time Application | 5 |
| 2 | THE THREE-TANK WATER LEVEL SYSTEM | |
| 2.1 | Overview of Data Acquisition Systems | 6 |
| 2.2 | The Three-Tank Water Level Control System | 9 |
| 2.3 | Three-Tank Control System Basic Operations | 13 |
| 2.4 | General Characteristics of the Three-Tank System | 14 |
| 3 | THE PCL 812PG INTERFACE CARD | |
| 3.1 | Introduction to the PCL 812PG Interface Card | 15 |
| 3.2 | Hardware Settings for the PCL 812PG Interface Card | 16 |

ABSTRACT

The main objective of this project is to design a data acquisition software that will display water level information on a 'Personal Computer' (P.C). The software design includes the interface card settings and the 'Graphical User Interface' (G.U.I) design.

An industrial plant simulation of a "three-tank system" that was constructed in an instrumentation laboratory and have been used for this purpose. No alteration have been made to the plant or it's operating conditions. Besides having to display the water level information in all 4 tanks (including the reservoir), other information such as equipment's status have also been included. The G.U.I is also designed to warn the user should dangerous level of water in tanks is nearly exceeded.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Digital closed-loop control systems have revolutionised and brought many benefits to the process control automation industry in many ways.

Previously, analog closed-loop systems has provided simple, inexpensive control for loops that do not require high accuracy, flexibility of adjustment, reconfiguration, computation, or dead-time compensation.[1]

However, digital closed-loop control systems have become very popular nowadays, replacing analog closed-loop systems in various industries. Digital closed-loop control can solve all of the previous analog system problems mentioned above while opening up new fields in flexible manufacturing.

With the advent of microcomputers, the possibility of incorporating measurement and control capabilities into a PC-based system, has become an attractive alternative as a result of the price, performance ratio and the shorter user learning curve.[2]

This project is concerned with obtaining data from a three-tank water level system and to display the information in a computer via an interface card (software development). The three-tank water level system currently utilizes analog closed-loop control with the actual control being provided by the Level Indicating Controller (L.I.C). The water level in the Three-Tank system is to be monitored by a P.C (Personal Computer) without making any changes to its current operating conditions.